Caught in adversity

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CHAPTER 8
SUMMARY AND GENERAL DISCUSSION

This thesis applied a public mental health care (PMHC) perspective in studying the development, persistence and escalation of criminal behavior with a focus on the transition from childhood to early adulthood. In doing so, this thesis identified childhood risk factors associated with persistent and escalating criminal behavior in early adulthood, 2) ensuing self-sufficiency problems in important life domains and 3) medical and social determinants of persistent criminal behavior in adulthood.

Prior research suggests that offenders, although not typically considered a target population of PMHC, share similarities with more traditional PMHC populations such as the homeless and chronic drug abusers (Fassaert et al., 2014; Quirouette, 2016). Hallmark characteristics of such populations are mutually influencing medical, behavioral and social problems, inadequate or even lack of requests for care, and public safety concerns on the basis of which they appear within the 'safety nets' that local PMHC systems provide. In general, such multiproblem situations can be considered to be the manifestation of adverse (childhood) experiences and disordered personal development over prolonged periods of time (Bellis et al., 2015; Felitti, 2009). From the perspective of harm reduction and public safety, PMHC systems are tasked with the public responsibility to prevent further social exclusion and marginalization of its target populations, to protect the public (e.g., those who suffer from nuisance, who are victims of violence and/or crime) and enhance public safety. In being directed by municipal policy measures, local PMHC systems may offer preventive and rehabilitative opportunities for offenders in addition to those provided by the (juvenile) criminal justice system and regular care providers.

To answer the research questions of this thesis, data were collected regarding two distinct research population. One consisted of male young adult violent repeat offenders who were drafted from the Top600 Approach in Amsterdam, a municipal deterrence program for repeat offenders of crimes with a major impact on their victims. This person-oriented program, still ongoing at the time of the publication of this thesis, combines features from law enforcement and (public mental health) care to promote structural behavior change (see chapter 1, box 1). Given that the large majority of violent repeat offenders included in this program have a history in juvenile probation, their offending behavior has persisted after transitioning from childhood to (early) adulthood. In order to acquire a better insight into important risk factors of specifically escalating criminal behavior (i.e. violence), this research sample was complemented with a 'positive comparison group' consisting of male young adults with a juvenile probation history, but who had not committed violent offenses in early adulthood.

The other research population consisted of male inmates from general prison wards in Amsterdam who served relatively short (< 6 months) prison sentences. This research population was selected in response to a municipal need to acquire better information about the prevalence of medical and social problems among prisoners, as these problems needed to be accounted for in the design of a renewed detention after care program (see chapter 1, box 2).

MAIN FINDINGS AND INTERPRETATION

The following paragraphs summarize and discuss the main findings of this thesis in a chronological order, according to distinct life-stages and age-transitions, starting in childhood and ending in adulthood.

CHILDHOOD

Chapter 2 presents the results of a study that examined which constellations of childhood risk factors are the best predictors of persistent and escalating criminal behavior in early adulthood. The underlying rationale was that identifying constellations of risk factors might better explain future violence than a focus on stand-alone risk factors because high-risk juveniles typically present with a multitude of interacting problems. In order to do so, young adult violent offenders were compared with their nonviolent counterparts. Differences between both groups were observed for a wide variety of childhood criminogenic risk factors, thereby casting doubt on which risk factors are the most important with respect to the escalation of criminal behavior. A decision tree analysis brought this multitude of risk factors back to an insightful set of six that together constituted eight distinct constellations of risk factors. Two of these constellations were associated with a particularly high risk of later violent offending. The first constellation depicted offenders who as minors had been moderately involved with criminal peers, who had committed offenses under the influence of drugs, and who had grown up in a dysfunctional family. The second constellation designated offenders who had been severely involved with criminal peers and who had criminal family members. Criminal behavior seemed to be normalized through social learning mechanisms (Besemer, Ahmad, Hinshaw, & Farrington, 2017; Eichelsheim & van de Weijer, 2018; Farrington, 2011; Whitten et al., 2019) in a social context characterized by criminal family members and/or antisocial or criminal peers. Conversely, low involvement with criminal peers, not having committed offenses under the influence of alcohol/drugs and having presented with depressive symptoms were associated with the lowest risk of later violent criminal behavior. Possible explanations for the association between depressive symptoms and a lower likelihood of violent behavior are that offenders with

depressive disorder are less likely to act violently due to low energy/fatigue (American Psychiatric Association, 2000) and that they are less likely to be included in criminal peer groups (Moffitt, Caspi, & Rutter, 2006).

Chapter 3 elaborates on childhood risk factors of escalating criminal behavior in early adulthood. Despite the fact that offenders with intellectual disability (ID) are overrepresented in the criminal justice system (Frize, Kenny, & Lennings, 2008; Teeuwen, 2012; Van der Put, Asscher, Stams, & Moonen, 2014), juvenile and young adult offenders with ID are insufficiently singled out as subgroups to be studied. However, a better understanding of the associations between ID and other risk factors for persistent and escalating criminal behavior might lead to more effective prevention of criminal behavior in childhood (i.e. juvenile probation) and to better recidivism reduction in (early) adulthood. The study described in chapter 3 therefore investigated whether or not childhood risk factors associated with violent criminal behavior in early adulthood are different for violent repeat offenders with and without ID. It should be noted that offenders were considered to have an ID on the basis of having received guidance from the local youth agency specialized in youth with ID (William Schrikker Groep), and not on the basis of the IQ-cutoff scores for ID. Consequently, the study does not provide a prevalence estimate of ID in this sample.

Compared to offenders without ID, more offenders with ID presented with severe externalizing and disruptive behaviors at a young age, with neurological deficits, they were more strongly susceptible to antisocial/criminal peers and they more often had inadequate social-relational skills. As young adults, offenders with ID were more likely to commit violent property crimes such as violent theft and armed robbery. Notwithstanding these differences, both groups also showed many similarities in both childhood risk factors and young adult offending behavior. ID may have lacked further distinctive power considering that the population of violent repeat offenders from which they were sampled (Top600 Approach) was a particularly severe target group in general.

An important implication of these results is, foremost, that ID is to be considered a common psychiatric disorder among young adult violent offenders (Teeuwen, 2012; Kaal, 2016). ID should be better understood and anticipated in all disciplines involved with offender populations, such as youth care and juvenile probation, (juvenile) criminal justice system, providers of (forensic) psychological/psychiatric care and other organizations included in local PMHC networks. Chapter 3 therefore confirms that it is essential that preventative and rehabilitative efforts for juvenile and young adult

offenders increase their responsivity to ID (Lindsay, Sturmey, & Taylor, 2004). In addition, we found that ID was evidently related to distinct childhood risk factors and criminal behavior in early adulthood. Higher susceptibility to peer pressure, amongst others, may encourage the criminal behavior (or even criminal exploitation) of offenders with ID. ID also appeared to be related with having problems in overseeing the consequences of criminal behavior, which may explain ID offenders' higher propensity to commit violent theft/armed robbery. The recognition that offenders with ID also stood out at a younger age than their counterparts with respect to externalizing behavior problems (e.g., conduct disorder, antisocial behaviors, conflicts with authority figures) shows that there are opportunities for early interventions which require alliances between school, parents, youth care and the juvenile criminal justice system. Within the population of ID offenders, there is a necessity to differentiate even further according to the underlying causes of (functioning on the level of an) ID. For example, apart from congenital ID, ID may also be a result of acquired brain injury, early school drop-out or chronic drug abuse. Such differences may be relevant with respect to the guidance, treatment and perhaps even revalidation of offenders with ID.

From a retrospective narrative, chapters 2 and 3 also show that a population of young adult violent offenders constitutes a severely problematic target population on the basis of a strikingly high prevalence, diversity and accumulation of childhood criminogenic risk factors. Although most criminogenic needs were not included in the distinct constellations of risk factors associated with high risks of escalation of criminal behavior (chapter 2), many other criminogenic risks were also found to be highly prevalent. This concerned, amongst others, impaired pedagogical and affective parenting, family dysfunction and externalizing problem behaviors with early ages of onset. Parents were often inconsistent, abusive and/or neglectful. Many parents suffered from mental health problems, addiction and somatic illnesses and also displayed overt problem behaviors in the forms of domestic violence and criminal behavior.

Risk factors at the individual level were early-onset externalizing problem behaviors such as disruptive, antisocial and offending behavior, conflicts with authority figures, criminal peer orientation, truancy, school dropout and a worrying lack of motivation to cooperate with youth care/probation. Besides these, psychological functioning problems, most apparently with respect to lack of empathy, impaired conscience development, high susceptibility to peer pressure and lack of problem awareness and -insight were also highly frequently observed. Psychopathology in the form of (clinical) Axis I disorders, such as psychotic disorders and mood/anxiety disorders, were relatively infrequent. However, impaired development towards a personality disorder and

intellectual disability (i.e. Axis II disorders) were highly prevalent. Finally, problematic cannabis use appeared to dominate over the use of alcohol and other drugs during adolescence.

CHILDHOOD - EARLY ADULTHOOD

Chapter 4 focuses on the transition from youth to early adulthood. The primary aim of this study was to examine how childhood risk factors relate to multiproblem situations in early adulthood among violent offenders. More specifically, this study focused on the relation between adverse childhood experiences (ACE) and subsequent self-sufficiency problems (SSPs) in multiple important life-domains in early adulthood. The ACE construct (Felitti et al., 2009) depicts a particular set of ten childhood risk factors (physical, emotional and sexual abuse, physical and emotional neglect, household violence, incarceration of a family member, parental mental health problems and addiction problems, loss of a parent) and has been identified as an important precursor of a variety of negative outcomes in later life, among which psychiatric disorders, somatic illnesses and distinct problem behaviors (Bellis et al., 2015; Cecil, Viding, Fearon, Glaser, & McCrory, 2017; Hughes et al., 2017; Metzler, Merrick, Klevens, Ports, & Ford, 2017; Suglia et al., 2017). If and how ACE also relates to multiproblem situations among violent offenders was less clear and therefore designated as an important research topic in this thesis.

In accordance with the results from chapters 2 and 3, ACE prevalence was severely elevated among young adult violent offenders compared to the general population. The most prevalent ACEs were loss of a parent due to separation, divorce or death (80%), incarceration of a family member (50%), abuse (50%), neglect (43%) and household intimate partner violence (43%). Half of all offenders obtained an ACE score of 4+, indicating exposure to multiple ACE categories, and were therefore at particularly high risk for a variety of negative adult outcomes (Bellis et al., 2015). Strikingly, nearly all offenders presented with one or more psychiatric disorders in early adulthood, of which personality disorders, intellectual disability and substance use disorder were the most frequent. On average, self-sufficiency was compromised to the extent that professional intervention was indicated in more than six out of ten important life-domains included. The most problematic life domains were *finances* (no legal income/debts), *social network* (few to none prosocial contacts), *daytime activities* (unemployed/not in education), *community participation* (no memberships/volunteering) and *domestic relations* (conflictual relationships with household members). As expected, higher ACE exposure was associated with more self-sufficiency problems in early adulthood.

Chapter 4 also shows that ACE and/or childhood risk factors (as described in chapters 2 and 3) were not only associated with the persistence and escalation of criminal behavior, but also with the persistence and development of a variety of adversities into early adulthood. ACE was positively associated with financial problems, homelessness, unemployment, conflictual domestic relations, diluted (pro)social networks, addiction problems, mental health problems and social exclusion. These findings confirm the presumption that ACEs have nonspecific harmful long-term negative outcomes (Anda et al., 2006). The persistence of a variety of adversities, besides criminal behavior, in the transition from youth to early adulthood among violent offenders necessitates better connections between juvenile and adult (health) services (Belling et al., 2014; Leavey et al., 2019). It also indicates that offense specific interventions seem unsuited (Perez, Jennings, & Baglivio, 2018; Reavis, Looman, Franco, & Rojas, 2013) and that trauma-informed interventions are warranted. In short, these results suggest that integral or multidisciplinary approaches, for example in the form of case management to motivate and guide offenders to mental health care and social services, must accommodate certain needs in addition to the efforts of the criminal justice system and individual care providers.

EARLY ADULTHOOD

The next question was whether or not violent offenders indeed are to be considered a target population of PMHC. **Chapter 5** describes the results of a study in which two different definitions of PMHC eligibility for admittance to the local PMHC system were applied to the self-sufficiency scores obtained by social-psychiatric screenings of 450, predominantly young adult, violent repeat offenders. The first definition was based on an algorithm that distributes certain weights to self-sufficiency scores in the various life-domains. This 'decision support tool' (DST) (Lauriks et al., 2014) was developed to substantiate allocation decisions to PMHC for homeless people. Applying the algorithm to the self-sufficiency scores obtained revealed that half of the sample met the criteria for PMHC admittance. The second definition was presenting with problematic self-sufficiency levels in the domains of *mental health* or *addiction* and in the social domain *finances* or *daytime activities* or *housing*. According to this definition, a third of the sample belonged to the target population of PMHC. Importantly, there was a great amount of overlap between both definitions: nearly 80% of offenders who met the criteria according to the DST also belonged to PMHC according to the second definition.

Additionally, this study exposed normative needs for mental health and addiction care based on the presence of psychiatric disorders. The point-prevalence of any psychiatric disorder was 70%. The most frequent clinical psychiatric disorders (axis I)

were substance use disorder, mood/anxiety disorders and impulse control disorders. With respect to axis II disorders, about two thirds of all offenders presented with a personality disorder and intellectual disabilities were suspected for half of the sample. The study confirmed the presumption that a significant part of a sample of violent offenders showed multiple self-sufficiency problems to the extent that PMHC based intervening is warranted in addition to the involvement of individual care providers and the criminal justice system.

EARLY ADULTHOOD - ADULTHOOD

Chapter 6 further examined if the high prevalence of PMHC problems among violent offenders is also to be found among prisoners, and to what extent such problems can be associated with their criminal recidivism (i.e. persistency) after release from prison. More specifically, a longitudinal study was conducted among a sample of male prisoners from general prison wards with relatively short prison sentences (≤ 6 months). Interview data about social problems and mental health problems were matched with reoffending and re-imprisonment data covering a 5-year follow-up period. Repeat-events analysis (i.e. survival analysis for recurrent events) revealed trends in incidence rates of reoffending over time and identified which social and mental health problems are risk factors for recurrent reoffending.

As expected, the prevalence of these PMHC indicators was high. This applied to mental health problems, among which substance dependency and personality disorders, and social problems with respect to finances, daytime activities (i.e. lack of work/education) and housing. Based on re-arrests, a remarkably high recidivism rate of 87% was observed. Also, half of the total sample became re-imprisoned at least once within the 5-year follow-up period. Reoffending occurred most frequently in the first year after prison and 'first-year frequent offenders' remained the most active offenders during the entire follow-up. Younger age, being single, unqualified for labor (i.e. not having an entry-level diploma to enter the labor market), substance dependency and narcissistic personality disorder were identified as the most important determinants of recurrent reoffending.

In the same study population, **chapter 7** addresses the disparity between normative and perceived needs for care, one of the defining characteristics of traditional PMHC populations. That is, having a perceived need for care is an important reason why people seek care or support (Andersen, 1995; Andersen & Newman, 2005). Absence of a perceived need for care is therefore an important cause for further deterioration. Additionally, the study examined if the absence of a perceived need for care could

also be related to the persistence of criminal behavior in adulthood. In order to do so, normative and perceived need for care were assessed among the sample of male prisoners. Normative need for care was defined as having a mental health problem and/or being substance dependent. Perceived need for care was defined as experiencing a mental health problem and expressing a wish to receive care (as was asked in the questionnaire). Two-thirds of all prisoners presented with a normative need for care. Less than a third of this group had a perceived need for care. Older age, lack of daytime activities (no work/education) and borderline personality disorder were positively related with having a perceived need for care. Prior use of mental health care or addiction treatment exerted a positive influence on this relationship. However, no relation between perceived need for care and criminal recidivism after release from prison was observed.

The results of both studies, in particular the high prevalence of social and mental health problems obtained, designate a significant part of short-detained prisoners as a target population of PMHC. An important implication of this finding, combined with the high reoffending and re-imprisonment rates observed, is that imprisonment in itself appears to exert no, or only a marginal deterrent effect on criminal recidivism after release from prison. On the contrary, specifically repeat imprisonments are known to have harmful side-effects such as discontinuity of care, deterioration of social circumstances, loss of prosocial contacts but also stigmatization and social exclusion of (ex-)prisoners (LeBel, Burnett, Maruna, & Bushway, 2008). Additionally, the prison environment in itself is considered a potentially impoverished environment that may exert negative effects on brain functions (Meijers, Harte, Jonker, & Meynen, 2015) due to, for example, lack of control of daily life routines (Woodall, Dixey, & South, 2013), passive leisure activities (Elger, 2009) and physical inactivity (Plugge, Foster, Yudkin, & Douglas, 2009). This understanding emphasizes the need for effective detention after care programs, for which the identification of determinants of recidivism after release is crucial to be able to effectively select subgroups of prisoners who may benefit from tailored interventions.

The research also showed that, to a large extent, determinants of the escalation of criminal behavior (chapters 4 and 5) and the persistence of criminal behavior (chapters 6 and 7) are similar. These determinants are primarily dynamic risk factors that, although changeable, are difficult to target during prison because the criminal justice system is not optimally equipped to accommodate social needs (e.g., finances, housing, social network) and to counter negative outcomes associated with certain individual characteristics (e.g., intellectual disability, personality disorders).

Lastly, we also found an important and worrying disparity between normative and perceived needs for care. This disparity was most apparent for younger prisoners. Younger prisoners (i.e. young adults) have been found to be less likely than older prisoners to have appropriate problem awareness about their predicaments. Even if they feel the urgency of a particular problem, they are more strongly inclined to assume that their problems can be solved without help and will eventually subside (Abram, Paskar, Washburn, & Teplin, 2008). In this respect, a positive result is that prior care utilization was positively associated with having a perceived need for care. This is an important point of engagement that also may be transitioned to the earlier life phases. It also underpins the importance that the reception of health care and social services earlier in life should not lead to negative experiences of failure and frustrations, because these experiences may provoke care fatigue and distrust in the benefits of care, or even in the sincerity of caregivers.

METHODOLOGICAL CONSIDERATIONS

The studies were carried out while drawing upon the existing knowledge from developmental and life-course criminology, public mental health care, (forensic) psychiatry and the criminal recidivism literature. Important insights from these bodies of research were integrated in the study designs to, ultimately, substantiate the advocated role of integral approaches to preventing and responding to criminal behavior. This multidisciplinary approach is considered an important and potent feature of public health, which allows public health to respond effectively to a wide array of health conditions (Dahlberg, 2002; 2009). To a large extent, the research questions were answered with data that were routinely collected in the context of the actual provision of care/support to juvenile delinquents, young adult violent repeat offenders and prisoners. As such, the studies of this thesis were embedded in real-life populations and interventions and were closely positioned to daily practice.

An important benefit of this approach is that response rates were relatively high compared to the literature on related target groups, with 70% of violent offenders agreeing to a social-psychiatric screening and a response rate of 66% obtained among prisoners. However, an important drawback is that these data were not gathered for the purpose of performing scientific research. The statistical analyses and their outcomes in this thesis were therefore dependent on the quality of the data and the heterogeneity between offenders included in the research samples, which at times were suboptimal, specifically with respect to registry data.

STRENGTHS

This thesis used data retrieved from the historic juvenile probation files of nearly 400 young adult male offenders (chapters 2-4). In scoring these files, well-trained raters used a validated instrument (FPJ; Brand & Van Heerde, 2010) and achieved a high inter-rater reliability. A major benefit of using files over self-report is that files provide access to relevant information about childhood risk factors as observed and recorded by juvenile probation workers at the time at which these problematic situations actually occurred. Compared to self-report, file information is therefore considered to constitute relatively objective and non-retrospective data.

A huge effort was made to get access to data on dynamic risk factors for criminal behavior. Within hard to reach target populations, more than 450 young adult violent offenders participated in an extensive social-psychiatric screening (chapters 4 and 5) and 200 prisoners were interviewed during incarceration (chapters 6 and 7). The relationships between dynamic risk factors and recidivism exposed in this thesis may come to the benefit of deterrence programs for (violent) offenders because dynamic risks are changeable and therefore important targets of intervention.

Information about childhood risk factors and dynamic risk factors of criminal behavior were matched and enriched with objective data from the police, the public prosecutor, the custodial institutions agency, the municipal records database and the local youth care agencies, which further enhanced their reliability and applicability. Together, these data also provided opportunities to apply a life-course approach to the study of the development, persistence and escalation of criminal behavior from childhood to (early) adulthood in absence of opportunities to deploy a longitudinal cohort study. Finally, the thesis used innovative approaches and state-of-the-art statistical methodologies in answering important research questions. Despite these strengths, several limitations need to be mentioned which are presented in the following paragraphs. For a more detailed overview of distinct limitations that apply to the separate studies, we refer to chapters 2 to 7.

ECOLOGICAL VALIDITY AND GENERALIZABILITY

The primary study population of this thesis consisted of violent offenders who were enrolled in the local Top600 deterrence program for offenders of high impact crimes (HIC). In this context, offenses were considered HICs in reference to the impact on their victims. Specific HIC categories based on which repeat offenders were included in the deterrence program were violent theft/ (home) burglary, street robbery and (armed) invasion/robbery, public assault against a person, aggravated assault and manslaughter/

homicide. Police records, that depict the offending histories of these offenders, were either limited available (chapter 2 and 3) or unavailable (chapters 4 and 5). In being sampled from the deterrence program, participants were HIC offenders by definition and ipso facto violent offenders. However, HICs have no recognized status outside the local context of the deterrence program. The HIC construct therefore does not generalize well to the existing literature, ultimately complicating the comparison of our results with the literature and vice versa.

Furthermore, it is important to realize that the HIC status in itself allowed for substantial variety between offenders concerning the crimes they had committed. As an example, both offenders of violent theft and offenders of manslaughter/homicide could be included in the program and, thus, the study population. However, these offenders may be rather different from one another with respect to their criminal behavior. Contrary to manslaughter/homicide, violent theft is not primarily directed at bringing harm to another human being. Demarcating offenders based on their HIC status is therefore a rather unrestrictive criterion that further affects the ecological validity of the sample and the generalizability of the study results.

Nevertheless, it is important to realize that it is difficult to study criminal behavior from controlled laboratory settings. In a sense, our research populations can be considered as offender populations as they are 'picked up from the street' and thereby as a reflection of the wide variety between individual offenders as they are encountered in the daily practices of the criminal justice system (e.g., juvenile probation, prison) and PMHC systems.

WHERE ARE THE DESISTERS?

Chapter 2 identified important childhood risk factors for violent criminal behavior in early adulthood. In essence, this exercise revolved around a comparison of risk factors between former juvenile delinquents who as young adults either showed persistent (nonviolence) or persistent *and* escalating (violence) criminal behavior. Both types of offenders were identified on the basis of their appearance as young adult offenders in the local police registry. This sampling procedure had an important drawback. It did not allow for the identification of former juvenile delinquents who had desisted from crime after transitioning into early adulthood for the mere fact that crimes that are not committed are also not registered by the police. Furthermore, the available data also did not provide the means to distinguish possible desisters from those that did not appear in our data due to misspelled surnames and/or those who had left Amsterdam.

As such, although the violence-nonviolence distinction yields important insights, the process of desistance from crime is outside the field of vision of this study and thesis.

POLICE DATA: LIMITED AVAILABILITY AND SUSPECTED OFFENDERS

Police data were used as an objective assessment of the criminal behavior of offenders in the study samples of chapters 2, 3, 6 and 7. Because the police data used provided information about offenses with participants affiliated in the role of arrested suspects, within a particular police district, these data has three important limitations. The first is that being an arrested suspect does not necessarily imply being guilty of having committed these offenses. Second, the local police registry does not provide information about offenses committed in other police districts. Third, police data are also subject to the notion of the 'dark number of crime', meaning that a certain amount of offenses committed remains undiscovered and unreported. Nonetheless, re-arrest is a commonly used operationalization of recidivism in the literature. Also, police data can be regarded a more objective source of offense information compared to self-reported offending behavior.

SCREENINGS, NOT DIAGNOSTICS

Prevalence estimates of psychiatric disorders in early adulthood (chapters 4, 6 and 7) were primarily based on screening instruments and not on diagnostic instruments. This casts some doubt on the robustness of the prevalence estimates of psychiatric disorders obtained. Nevertheless, prevalence estimates of psychopathology, including substance use disorders and personality disorders, that were observed among either high risk juveniles, young adult offenders or adult prisoners were largely on par with those reported in the literature (Bulten, Nijman, & Van der Staak, 2009; Fazel, Hayes, Bartellas, Clerici, & Trestman, 2016; Fazel, Yoon, & Hayes, 2017). Using screening instruments therefore seems a good alternative when circumstances do not allow for extensive psychiatric diagnostics.

Establishing the presence of intellectual disability (ID) is notoriously difficult, especially among offenders. The composite definition mild to borderline intellectual disability (MBID) applies to people with a mild ID (55 < IQ < 70) or borderline intellectual functioning (70 < IQ < 85) before the age of 18 and significant limitations in adaptive behavior with respect to conceptual, social and practical skills (Schalock et al., 2010). Concerning IQ, offenders are likely to have disharmonic intelligence profiles based on significant discrepancies between verbal IQ and performal IQ (WISC / WAIS III; refs) or verbal comprehension, perceptual reasoning, working memory and processing speed (WAIS IV, ref). Importantly, the IQ estimator for ID is highly unreliable when

a disharmonic intelligence profile is established, which is common among offender populations (Isen, 2010) and other PMHC populations (Kiewik, 2019). As such, chapter 3 identified offenders with ID on the basis of having received guidance from the local youth agency specialized in youth with ID (William Schrikker Groep) and not on the IQ-cutoff scores for ID. In chapter 4, the screener for intelligence and mild intellectual disability (SCIL; Kaal, Nijman, & Moonen, 2013; Nijman, Kaal, Van Scheppingen, & Moonen, 2018) was used to determine the suspected presence ID among young adult violent offenders. The SCIL is a fairly new screening instrument for MBID that has not been used extensively among offender populations. Because chapter 4 presents a prevalence estimate of (suspected) ID, this estimate is yet to be validated using diagnostic intelligence tests.

SELF-SUFFICIENCY AND SOCIAL PROBLEMS ARE DYNAMIC FACTORS

In order to measure self-sufficiency (chapters 4 and 5), the Dutch version of the self-sufficiency matrix was used (SSM-D; Fassaert et al., 2014). The SSM-D was developed as an observational screening instrument to assess self-sufficiency levels in important life domains. The SSM-D takes a 'snapshot' of one's functioning that applies to that specific moment in time. This has two important consequences. First, specific circumstances at the time of the screening may influence outcomes of the screening. For example, differences in self-sufficiency scores are to be expected on the SSM-D domains *Housing*, *Community Participation* or *Domestic relations* according to whether one is screened in prison, jail or at home. Also, the setting of the interview may provoke specific response biases among offenders such as acquiescence (i.e. yeahsaying), dissent (naysaying) or social desirability.

Second, self-sufficiency should not be considered to be unchangeable over time. In longitudinal studies that include self-sufficiency as determinants of a particular outcome such as recidivism, self-sufficiency is ideally measured at different points in time to account for any changes in one's circumstances during the course of time. Nevertheless, low self-sufficiency scores do reveal specific individual vulnerabilities. The same applies to social problems, and to a lesser extent mental health problems, that were assessed among prisoners during detention and treated as time-independent risk factors for recidivism in a 5-year follow-up period (chapters 6 and 7). However, similar to self-sufficiency, social problems are subject to change during time. This notion was in fact anticipated by inviting all prisoners interviewed for a follow-up interview after release from prison. Unfortunately, however, too few ex-prisoners also participated in the follow-up interview.

Notwithstanding these limitations, the SSM-D has been shown to be a tool that aids professionals in starting and maintaining a (meaningful) conversation, which is not self-evident among such target populations. The fact that >70% of offenders included in the deterrence program cooperated voluntarily in the social psychiatric screening is promising in that respect. However, the possibility of a certain selection bias cannot be ruled out, because the group that did not participate in the screening may constitute the group with the most severe self-sufficiency profile. This would imply that, despite the high prevalences of a wide variety of PMHC problems obtained, our results could even be overly optimistic.

CONCLUSION

Justice involved (young) adult male violent offenders constitute a particularly severe target population marked by severely troubled childhoods. This is evidenced by strikingly many, diverse and severe childhood criminogenic risks, of which only a handful is captured by the adverse childhood experiences construct, impaired psychological and psychosocial functioning and a variety of social and mental health problems in adulthood. Childhood risk factors, most notably having criminal peers and criminal family members, are evidently related to the persistency and escalation of criminal behavior. ACEs were identified as precursors of impaired functioning in important life domains in (early) adulthood. Such self-sufficiency problems provide fertile ground for the further persistence of criminal behavior. Short-detained male prisoners present with a high prevalence of mental health, addiction problems and social problems, which they themselves often fail to perceive as problematic. A vast majority of prisoners reoffends repeatedly after release from prison.

These characteristics, combined with the consideration that the antisocial and criminal behavior of the large majority of offenders started in childhood, suggests that a large part of justice involved (young) adult males are persistent offenders and should be approached accordingly. Therapy resistance among these offenders, which applies to a lesser extent to older prisoners, should be anticipated. Including a PMHC approach in offender rehabilitation may provide additional means to do so. PMHC systems are potentially equipped with the necessary expertise to provide integral and long-term care/support, with a focus on public safety and harm reduction, to those enrolled in PMHC (with or without a perceived need for care) and their social environment.

The overall goal of PMHC is to prevent social exclusion, marginalization and, ultimately, homelessness of its target populations. Early signaling of problem situations and

countering the adverse outcomes of (childhood) risk factors and problematic behaviors are important activities tied with PMHC systems. In addition, PMHC systems have a task in encouraging social/societal recovery of its targets populations in order to achieve adequate self-sufficiency in important life domains and, subsequently, an acceptable quality of life. To do so, PMHC systems operate on the level of practice, policy making and research. With respect to the latter, applying a PMHC perspective to the study of criminal behavior yields interesting insights and important results that complement the existent research literature on criminal behavior as provided by criminology and forensic (child and adolescent) psychiatry. Importantly, the combination of high prevalences of childhood risk factors and self-sufficiency problems in multiple life domain in (early) adulthood, observed among the two research populations of this thesis, shows that criminal behavior is only one of many negative outcomes from exposure to certain adversities in childhood. The results of this thesis therefore do not generalize exclusively to the target population of (violent) offenders but also apply to the broader target populations of vulnerable people.

With respect to the practice level, the primary message derived from this thesis is that offenders typically present with multiproblem situations. Whereas in the life stage of (early) adulthood these multiproblem situations apply to individual offenders, during childhood they refer as much to the individual children as to their family members and/or family systems as a whole. For both life stages childhood and (early) adulthood, integral interventions are therefore warranted. Because PMHC systems are governed by municipal policy, at least in the Netherlands, the research outcomes of this thesis also have important policy implications for local PMHC systems as a coordinator in networks of care providers and social services. In the same respect, the results of this thesis are also informative to municipal deterrence programs aimed to prevent the development of criminal behavior and to reduce criminal recidivism (after release from prison). These implications are discussed in the following paragraphs.

To summarize, the results of this thesis show the multifaceted nature of problematic circumstances found among offenders, that typically have an onset in childhood. In order to effectively target the medical and social problems of offenders, to reduce their persistent and escalating criminal behavior and to enhance public safety, municipal responses to crime and criminal target populations therefore need to be multidisciplinary. As such, allowing a PMHC approach to the target population of juvenile offenders, young adult (violent) offenders and prisoners from general prison wards may be valuable. This stems from the understanding that PMHC may provides good opportunities to connect the criminal justice system with local systems of individual

providers of care and social services. Also, local PMHC systems have expertise and are well equipped to respond to mental health and addiction problems, specifically in those cases where individuals are inadequate in organizing the reception of care/ services themselves. Last, in being directed by municipal policy, PMHC may also be better equipped than individual care providers and the criminal justice system to accommodate social problems (enhancing their social circumstances) as a strategy for recidivism reduction, harm reduction and enhancing public safety.

IMPLICATIONS FOR POLICY AND PRACTICE

The high complexity of problems observed among the offender populations of this thesis leads to the general implication that it is crucial that the most central determinants of persistent and escalating criminal behavior are recognized as important starting points for effective prevention, treatment and rehabilitation of offenders. These starting points should not only apply to the workings of individual care/support providers. They should also guide the broad spectrum of activities and interventions deployed among the target group of at-risk juveniles, juvenile delinquents and (young) adult offenders and prisoners. This concerns, amongst other, municipal policy measures regarding the purchase of healthcare and social services, municipal contracts with health insurers, the installment of population based prevention and deterrence programs and the preconditions that need to be met to achieve the intended effects of preventive and rehabilitative interventions. Examples of such preconditions are the continuity of care, sound psychodiagnostics and the monitoring of compliance with and effectiveness of interventions.

With respect to the 'Public health approach to violence prevention' of the World Health Organization (Dahlberg, 2002, 2009), this thesis focused on its two first steps, which are defining/monitoring of the problem at hand and identifying the associated risk and protective factors. The model commends that the next two steps are developing/ testing of prevention strategies and assuring widespread adoption. As such, the following paragraphs discuss the policy implications for the development and testing of prevention strategies according to the separate life phases childhood and (early) adulthood.

CHILDHOOD

Improve the early signaling and early intervention of social-emotional problems and antisocial behavior.

In the collective prevention of health problems among children, social-emotional problems and antisocial behavior need to be fully recognized as major child health and welfare concerns. Acquiring a better view and understanding of childhood externalizing behavior problems by means of population based monitoring of mental health and psychosocial functioning offers a means to do so. On the individual level, effective signaling and screening for problem behaviors are necessary steps to be able to effectively intervene. A better view of current practices with respect to signaling procedures of, for instance, kindergartens, schools, youth health care and the police may provide opportunity to enhance uniform signaling and screening procedures. The overview of important youth criminogenic factors for the persistency and escalation of criminal behavior (table 2, chapter 2) provides clues of how to do so. Ideally, such signaling procedures are sensitive to different age groups because the relative importance of risk factors for antisocial/criminal behavior problems tend to shift with age (Van der Put, Van Vugt, Stams, Deković, & Van der Laan, 2013).

This thesis not only re-established that young adult male violent repeat offenders typically have troubled childhoods, it also clarified which problems are the most important with respect to persistent and escalating criminal behavior. Adverse childhood experiences, the normalization of criminal behavior and impaired psychological and psychosocial functioning, combined with making the 'wrong choices' (e.g., school drop-out, problematic use of cannabis, involvement with criminal/antisocial peers, loss of prosocial contacts and activities) mark those juveniles at particularly high risk for a variety of negative outcomes in early adulthood. Local (health) care/welfare providers and justice systems should therefore be apprehensive to problematic circumstances within families with under aged children. For example, having criminal family members, one of the ten ACEs, was also identified in chapter 2 as an important criminogenic factor associated with the escalation of criminal behavior.

It also marks the phenomenon of intergenerational transmission of criminal behavior. This understanding should be ingrained within the justice domain. Screenings of the parents of offenders and providing pedagogical support /trainings to young fathers in prison are examples of ways in which the intergenerational transmission of criminal behavior may be countered. The same applies to domestic violence, which is also an important ACE. Caregivers that encounter situations of domestic violence should be vigilant on the involvement of children.

To better prevent the development of criminal behavior in childhood this implies that during all routine contacts as performed by the youth health care system, professionals should be sensitive to such risk factors, at both the individual and family level. It is also important to establish a platform where worrying signals can be 'picked-up' by different organizations can be brought together to acquire a better view on problem situations where children are involved. From the understanding that ACEs tend to co-occur, youth care services should realize that they are in the opportunity to prevent more ACEs to occur if they manage to timely and effectively intervene when the presence of a particular ACE has been established. This is important because the accumulation of ACEs is related to a higher diversity of problems in later life. Prevention programs such as 'Voorzorg' and 'Kansrijke start' provide good examples of effective ACE prevention.

Identify and target the highest risk juveniles

An important understanding of our study into combinations of criminogenic risk factors for violent behavior in (early) adulthood (chapter 2) was that even within the overall high-risk target group of juvenile probation, juveniles at highest risk of persistent/escalating criminal behavior can be distinguished. Juvenile probation should be on the lookout for strong involvement with criminal peers, criminal family members, the rejection of institutionalized interference in their lives, negative basic attitudes and psychological functioning problems such as lack of empathy, impaired conscience development and lack of problem awareness. Additionally, having delinquent older brothers should be considered as an important signal of juvenile at-risk (Huijsmans, Eichelsheim, Weerman, Branje, & Meeus, 2019). Cannabis use seemed to progress parallel to deterioration of social circumstances such as with respect to educational achievements and school drop-out, problems to maintain a job and increased involvement with antisocial/criminal peers.

In accordance with the RNR model of offender rehabilitation (Andrews & Bonta, 2010), this implies that juvenile probation has means to allocate juvenile delinquents with the highest risk to high intensity interventions. It also implies the necessity to distribute resources (e.g., money, experienced juvenile probation officers) in favor of such high-risk juveniles. Furthermore, for the highest risk group of juvenile probation a matched care approach seems preferable over a stepped care approach because the former enables 1) the juvenile criminal justice system to deploy high-intensity interventions to juveniles with a high-risk profile, irrespective of having already committed serious crimes and 2) may prevent care fatigue as a result of numerous ineffective light interventions deployed to this target group.

Intervening at high intensity must however not be confused with deploying (too) many interventions simultaneously. For this group, continuity of care seems crucial. A patchwork of isolated interventions during the course of time should be avoided. Especially for juveniles who reach the age of 18 and who have a high ACE score, childhood trauma or intellectual disability, juvenile probation should ensure that they are actively referred to the proper adjacent adult services while being on guard for the stigmatization of negative labeling of such individuals. For the group of young adult violent offenders, intensive counseling by youth care/ juvenile prevention has not been able to prevent their escalation into violent criminal behavior after transitioning into early adulthood. Although their juvenile probation files mentioned that externalizing problem behavior often started during primary school, they entered the youth care system when they were 14. This implies necessity and opportunity to deploy evidence based interventions at earlier ages, specifically because interventions aimed at influencing dynamic youth factors are more effective when deployed earlier in life.

Increase motivation for and cooperation with youth care /juvenile probation.
Despite intensive guidance of youth care/juvenile probation, interventions that were deployed often did not reach their preventive potential due to juvenile offenders' general lack of motivation to cooperate. Motivating juveniles remains a major point of attention for juvenile probation. Besides the available options of coercion, exploring alternative ways to increase offenders' responsiveness to interventions is recommended. In this respect, the good lives model (GLM) provides valuable insights. GLM is a strengths based approach to offender rehabilitation that taps more strongly than What Works into prioritizing attention to future outcomes that are meaningful to the offender, such as happiness, inner peace, intimacy, friendship and a sense of belonging (Ward & Brown, 2004). Other examples are prioritizing a good match between juvenile and juvenile probation officer, to draw up contracts with juveniles ('giving them something to lose'), and forming an alliance with their parents.

System-based approaches, such as intensive family case management (Busschers & Boendermaker, 2015) and functional family probation and parole (FFP; Alexander, Waldron, Robbins, & Neeb, 2013) may be good candidates to promote motivation for change. FFP is based on Functional Family Therapy (FFT; Alexander & Parsons, 1982; Rowland, 2009) and uses case-management to engage and motivate high-risk juveniles and their families for change (Busschers, 2018). FFP may create favorable circumstances in benefit of the effectiveness that evidence-based interventions with respect to structural behavior change and improved functioning in general.

Furthermore, chapter 2 identified involvement with antisocial/criminal peers, one of the big four criminogenic needs from the literature (Andrews & Bonta, 2010), as the most important determinant for the persistence/escalation of criminal behavior in early adulthood. Involvement with criminal peers goes hand in hand with the loss of prosocial contacts. High-risk juveniles seem therefore also to benefit from help and assistance with respect to their societal participation (e.g., school, work, sports/leisure activities) to avoid becoming isolated from prosocial contacts.

(EARLY) ADULTHOOD

Chapters 4-6 captured the life phase (early) adulthood and exposed a wide variety of both medical and social problems among violent repeat offenders and short detained prisoners. The added value of a PMHC approach in responding to such target groups is that PMHC, by tradition, has knowledge and expertise of how to 'seduce' such individuals to accept help and care. PMHC has expertise in applying a 'carrot and stick' approach, for instance with respect to accommodate one's financial and housing problems (providing opportunity to receive social benefits, housing and daytime activities). PMHC also exists by virtue of the municipal responsibility of public safety and reducing the nuisance that offenders cause to the citizens. In doing so, an important task of PMHC systems is to also account for the wellbeing of directly involved people, which applies to the parents, partners and children of offenders, but also to the general population among which neighbors and neighborhood communities. A PMHC approach to persistent and escalating criminal behavior can make multiproblem situations transparent and manageable.

As such, it is crucial that deterrence efforts for offenders take into account that their effectiveness may be suboptimal due the multifaceted problem situations that characterize offender populations, who themselves are often subjected to ineffective or contra productive coping styles that may originate from in childhood. Although well-coordinated multidisciplinary approaches to offenders are warranted, such interventions are typically time-restricted, they end. In enticing offenders to care and social support, which is the modus operandi of Amsterdam's Top600 Approach (chapter 1, box 1), long-term cooperation between multiple organizations is needed. To do so, it is important to make it clear that offenders present with complex and multifaceted problem situations that concern multiple organizations, among which the municipality, the police, the public prosecution office and providers of (mental health) care and social services. Not one of these organization can provide sustainable solutions on their own. Justice based interventions alone are insufficient and installing means to combine the judicial and care domain is essential. To install effective administrative measures

around these target populations it is important that the right (academic) knowledge and expertise (practice) are consulted. Single issue policies, or any oversimplification of the problems at play should be avoided.

The relation between adverse childhood experiences and self-sufficiency problems in adulthood should be interpreted as an important signal of the persistency of problems that characterize severe target populations such as violent repeat offenders. For at least a part of such offenders, these problems may be persistent to the extent that even state-of-the-art focused deterrence programs (Braga, Weisburd, & Turchan, 2018) are unable to divert them from criminal/antisocial behavior. From the responsibility of public safety and harm reduction of others involved, this would mean that lifelong governmental/municipal interference is warranted. The feasibility of such an implication is, of course, uncertain. It does raise the issue to what extent municipalities can influence, and thus be held accountable, the wrongdoings of such individuals.

The necessity of integral screenings

An obvious means to integrate a PMHC approach in the prison context is to screen all prisoners at entry for both medical and social problems and their criminal history. Such screenings are ideally performed by certified psycho-diagnosticians who are also well informed and trained concerning the characteristics of the target populations at hand. Outcomes of such screenings could be used to guide prisoners to appropriate (mental health) care and social services such as housing, employment and debt assistance opportunities. In doing so, disparities between normative and perceived need for care, that are common among prisoners (ref), should be anticipated. The reception of care should not depend exclusively on (being able to) expressing a need for care. This implies a shift from providing voluntary care to prisoners who wish to receive care to providing integral support to all prisoners. Offering opportunities for practical problems, such as housing or social security benefits, might also be used as leverage to motivate prisoners for mental health care if needed. The positive results of focused deterrence strategies (ref) and detention aftercare programs (ref), that resemble PMHC, provide a further legitimization for PMHC based approaches to offender rehabilitation and recidivism reduction.

Promote effective communication between the justice and care domains

The social-psychiatric screenings of violent repeat offenders (chapter 5), have shown that the self-sufficiency matrix (SSM-D; Fassaert et al., 2014) is an assessment instrument with which professionals are able to start a meaningful conversation with offenders. This is important, as being able to communicate effectively with offenders can be

hard to establish. Besides the domains of mental health and addiction, the SSM-D also comprises more 'practical' life domains, such as housing, work/education and finances. Offering guidance/support on these life domains can be used as a wedge to 'side' with offenders and also to motivate them for mental health care, if needed. This provides rehabilitative opportunities in justice based deterrence programs and it may enhance the communication between the justice and care domain.

DIRECTIONS FOR FUTURE RESEARCH

As mentioned earlier, this thesis aligns with the first two steps of the *Public Health Approach to Violence Prevention* (Dahlberg, 2002; Dahlberg & Mercy, 2009). These steps are a thorough assessment of the problem at hand and the identification of the most important associated risk and protective factors. By extension of these first two steps, the model further posits that future research should be directed at its third step, which is the development and testing of distinct prevention strategies. Future research should therefore entail the rigorous evaluation of the effectiveness of such approaches (step 3). Only when their effectiveness is soundly established does it seem viable to adopt, and adapt, such programs into other local contexts (step 4). In order to be effective, multidisciplinary approaches to violent crime should be responsive to offenders' personal histories (e.g., ACE exposure, childhood risk factors, traumatic brain injury), trauma-informed, attuned to multiproblem situations and reconcile primary with secondary/tertiary prevention to break the cycle of intergenerational transmission of (violent) criminal behavior. Essentially, determining the effectiveness of such programs should not be restricted to criminal behavior but should incorporate a focus on outcomes such as improved functioning in multiple important life-domains.

Chapter 2 retrospectively identified constellations of childhood criminogenic risk factors for violent criminal behavior in early adulthood. Prospective cohort research that starts at a relatively young age to end in adulthood, should deliver a better insight into interactions between risk factors that are most predictive of escalation of criminal behavior in early adulthood. It may also provide a better understanding of the process of desistance from crime in the transition childhood-early adulthood. This is important given that the juvenile justice system, forensic child and adolescent psychiatry and PMHC systems are likely to benefit from a comparison of childhood risk factors between desisters and persisters/escalators. In assembling a cohort, attention should be given to also include a focus on differences and similarities between siblings (male and females) with respect to outcomes after the transition from childhood to (early) adulthood. This may provide a better understanding of the protective and promotive factors that are

associated with a lower likelihood of developing social and medical problems, including particular risk behaviors.

As mentioned earlier, an important limitation concerning the assessment of dynamic risk factors was that despite being assumed to be dynamic, these factors were measured at one point in time and therefore operationalized as static factors. To address this limitation, future research into dynamic risk factors as determinants of criminal behavior as it occurs over time should also incorporate the dynamic assessment of prisoners' social circumstances after release from prison. This means that dynamic risk factors should also be measured at multiple points in time to be incorporated as truly time-dependent predictor variables of recurrent offending.

Finally, in all study populations included in this thesis problematic cannabis use was highly frequent. This accounts for juveniles, young adults and adults. Problematic cannabis use seemed to dominate over the problematic use of other substances, such as alcohol, cocaine and opiates. Despite the understanding that offenders' use of cannabis often seemed to progress parallel with deteriorations in social functioning (e.g., school drop-out, underachieving, involvement with antisocial peers, problems to get and maintain a job, failure to comply with the rules of daytime activities), cannabis use was often not designated as a priority to be targeted. This may stem from the status of cannabis as a 'soft drug' in the Netherlands, meaning that its possession and use is decriminalized. However, cannabis use appears to be a catalyst of the development of functioning impairments in important life-domains, specifically for vulnerable and high-risk populations. More research is needed into the extent to which cannabis use is actually detrimental to the lives of juvenile delinquents and young adult offenders.